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9 October 1969

NOTE FOR: Chairman, MC&G Working Group

SUBJECT: World-wide Positioning Requirements

I have received your 1 October memo [redacted] forwarding the MC&G proposal for a COMIREX memo to USIB and plan to schedule it for the 16 October COMIREX meeting. To provide a somewhat clearer focus on the issues, at least for us neophytes, I have taken the liberty of rearranging somewhat the order of presentation in your draft. Subject to your O.K. and including any changes you may desire, I will start the exercise with the attached memo to COMIREX members.

25X1

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[redacted]
Executive Secretary
Committee on Imagery Requirements and Exploitation

25X1A

Attachment
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NRO review(s) completed.

[redacted]
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MEMORANDUM FOR: United States Intelligence Board

SUBJECT: World-wide Positioning Requirements

REFERENCES: a. USIB-D-41.14/295 (COMOR-D-13/65),
11 July 1966

b. USIB-D-46.4/24 (COMIREX-D-15.2/12),
29 October 1968, Limited Distribution

Memo to Holders of USIB-D-46.4/24,
20 November 1968, Limited Distribution

Background

KH-4B

1. Reference a. stated the Department of Defense world-wide positioning requirements of [redacted] 25X1A vertical with 90 percent assurance relative to the World Geodetic System in support of long-range missiles. To meet this continuing requirement with an initial operating capability date of June 1970, reference b. established USIB agreement that NRO add the Doppler Beacon to five KH-4B systems beginning in the Summer of 1969.

2. Further COMIREX review in January - March 1969 with regard to the urgency of the requirement, and delays encountered by NRO in initiating the Doppler Beacon collection system, resulted in scheduling four Doppler Beacon KH-4B missions beginning in

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March 1970 instead of the five missions beginning in Summer 1969.

NRO now estimates that for an additional cost of [redacted] to

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25X1A

[redacted] for Doppler Beacons and Antennae, all six remaining

KH-4B DISIC (3" frame camera) missions could be operated with
the Doppler Beacon instead of the four presently established.

3. This increase of two KH-4B Doppler missions would
have the advantage to the Department of Defense of positioning a
significant number of additional Priority I targets in line with the

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[redacted] horizontal and [redacted] vertical requirement, increasing
the positioning accuracy of other targets and providing needed
geodetic control for stereophotogrammetric mapping operations

25X1A

being conducted world-wide in advance of the required [redacted]
missions. Even though DISIC photography with Doppler Beacon might
be partially cloud covered, photogrammetric control can be established
through use of the more precise orbit. This permits control to be
transferred to other cloud free photography. The net advantages to
the Department of Defense are considered to far outweigh the [redacted]

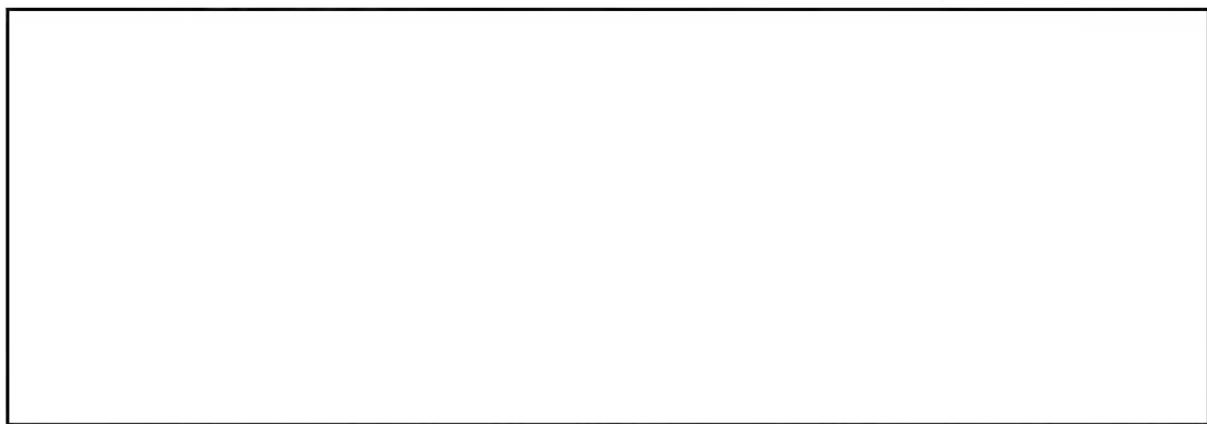
25X1A

25X1A

to [redacted] cost involved.

4. Since requirements for target positioning and geodetic control for mapping and charting include Northern latitude areas having limited light in winter months, some of the KH-4B DISIC missions with Doppler Beacon must be scheduled during summer months.

25X1D



6. The Department of Defense had indicated a tightening of the world-wide positioning requirement for long-range missiles. Extensive research and development has been performed on a continuous basis to advance the capability of weapons systems. Major attention has been given to long-range missiles and supporting activities including those contributing to reducing the geodetic and geophysical error of missile operations. Factors of long lead time for acquisition and data reduction and potential benefit in missile effectiveness in view of the cost involved are the basis for the Department of Defense currently

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establishing a technical objective of reducing the positioning portions of the geodetic and geophysical components of missile

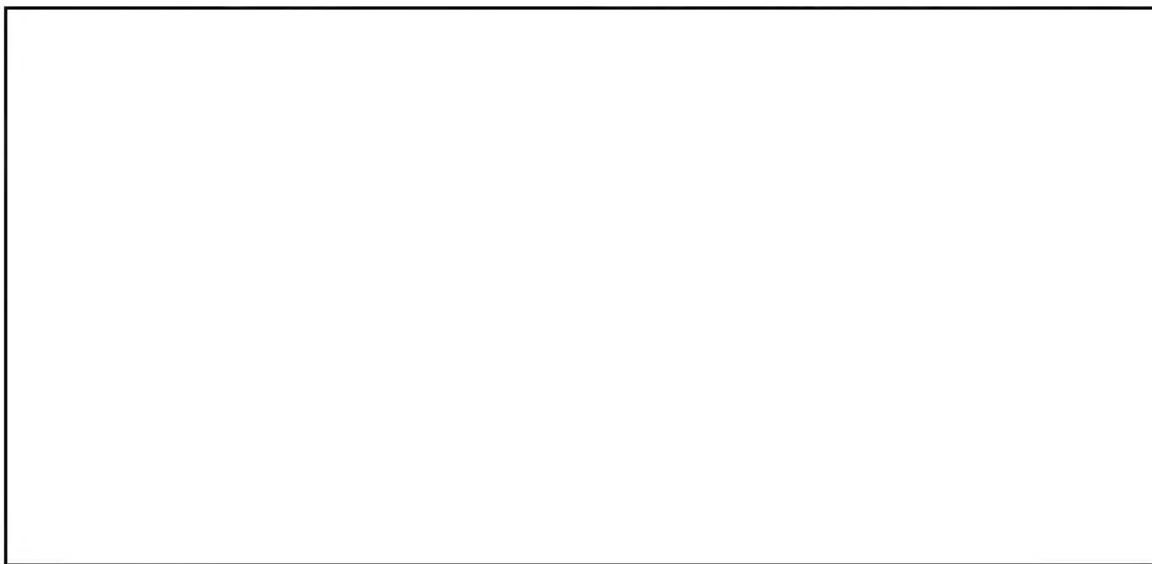
25X1A operations from [] horizontal and [] vertical to

25X1A

25X1A [] horizontal and [] feet vertical by 1974. (All values

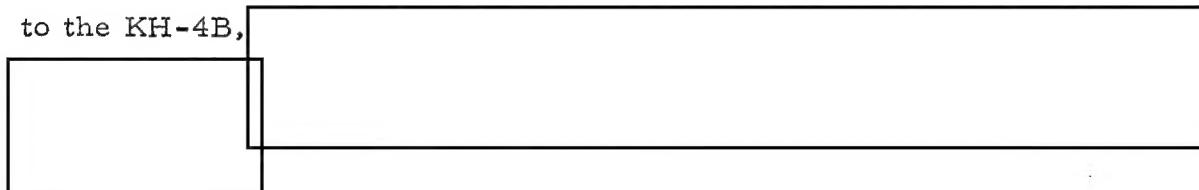
25X1A 90 percent assurance relative to the World-Geodetic System).

7. The KH-4B DISIC system with Doppler Beacon
25X1A will meet the [] feet horizontal and [] feet vertical positioning
25X1D requirement but will not meet the tighter positioning requirement
of [] horizontal and [] vertical requirement. However,
25X1A



Impact on Intelligence

8. According to the NRO, the Doppler Beacon can be added
25X1D to the KH-4B, []



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Recommendations

9. It is recommended that:

a. In view of the benefits to be gained and the relatively low cost involved, the NRO:
(1) Add the Doppler Beacon to six KH-4B DISIC (3" frame camera) systems beginning in March 1970.



25X1D

b. USIB recognize the updated Department of Defense world-wide positioning requirement in support of long-range missiles as [] horizontal and [] vertical beginning in June 1970 and [] horizontal and [] vertical requirement by 1974, all values 90 percent assurance relative the World-Geodetic System.

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